

# United States Patent [19]

Kaminsky

[11] E

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## [54] CHARGE TIME START CONTROL FOR INTERCONNECT PABX

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[73] Assignee: RCA Corporation, Princeton, N.J.

[21] Appl. No.: 714,457

[22] Filed: Mar. 21, 1985

## Related U.S. Patent Documents

Reissue of:

[64] Patent No.: 4,472,600  
 Issued: Sep. 18, 1984  
 Appl. No.: 470,573  
 Filed: Feb. 28, 1983

[51] Int. Cl. H04M 15/18

[52] U.S. Cl. 179/7.1 R

[58] Field of Search 179/7.1 R, 7 R, 7 MM, 179/2 TC, 8 A, 9, 18 AB, 18 AD

## [56] References Cited

## U.S. PATENT DOCUMENTS

3,721,769 3/1973 Krock et al. 179/18 AD  
 4,063,037 12/1977 Heffernan et al. 179/7.1 R  
 4,090,034 5/1978 Moylan 179/7.1 R  
 4,410,765 10/1983 Hestad et al. 179/7.1 R

Primary Examiner—Stafford D. Schreyer

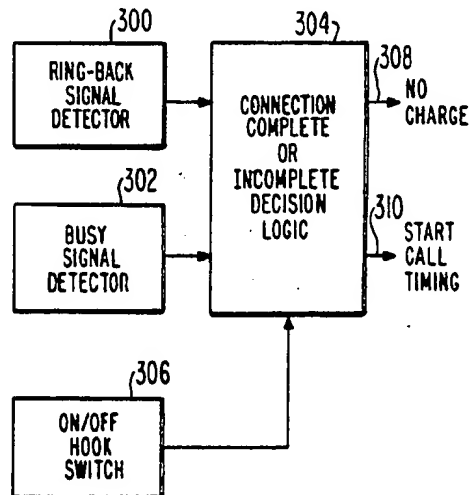
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## [57] ABSTRACT

In an interconnect [PABX], telephone equipment which does not have an answer signal returned thereto, decision logic makes use of returned audible busy and ring-back signals to determine if a connection extended through a telephone utility network to a called station is completed.

3 Claims, 3 Drawing Figures

(2) T329-126  
 X379-235  
 X379-257



L Number	Hits	Search Text	DB	Time stamp
-	33	(hotel or motel) same ((telephone or phone) with (fee or activat\$4))	USPAT	2002/05/24 11:52
-	87	(hotel or motel) same ((telephone or phone) with (charge or (sur adj charge) or surcharge or sur-charge))	USPAT	2002/05/23 13:25
-	26	(hotel or motel) same ((telephone or phone) with (charge or (sur adj charge) or surcharge or sur-charge))	EPO; JPO; DERWENT; IBM_TDB	2002/05/23 13:27
-	5326	(telephone or phone) same (surcharge or sur-charge or (sur adj charge) or fee or bill\$3)	USPAT	2002/05/23 13:38
-	187	((telephone or phone) same (surcharge or sur-charge or (sur adj charge) or fee or bill\$3)) same (hotel or motel or inn or restaurant)	USPAT	2002/05/23 14:27
-	698	(telephone or phone) with (fee or sur-charge or surcharge or (sur adj charge))	USPAT	2002/05/23 14:35
-	23	((telephone or phone) with (fee or sur-charge or surcharge or (sur adj charge))) same (motel or hotel or pbx or apbx)	USPAT	2002/05/23 14:29
-	2	((telephone or phone) with (fee or sur-charge or surcharge or (sur adj charge))) same pbx	USPAT	2002/05/23 14:34
-	133	(motel or hotel or inn) and ((telephone or phone) same (fee or sur-charge or surcharge or (sur adj charge)))	USPAT	2002/05/23 14:38
-	25	(use with (telephone or phone)) same (motel or hotel)	USPAT	2002/05/23 15:03
-	3	((use with (telephone or phone)) same (motel or hotel)) and (fee or surcharge or sur-charge or (sur adj charge))	USPAT	2002/05/23 15:04
-	245	(use with (telephone or phone)) and (motel or hotel)	USPAT	2002/05/23 15:04
-	50	((use with (telephone or phone)) and (motel or hotel)) and (fee or surcharge or sur-charge or (sur adj charge))	USPAT	2002/05/23 15:13
-	299	(guest same (fee or charge or surcharge or sur-charge or (sur adj charge)))	USPAT	2002/05/23 15:14
-	125	((guest same (fee or charge or surcharge or sur-charge or (sur adj charge)))) same (inn or motel or hotel)	USPAT	2002/05/23 15:15
-	65	((((guest same (fee or charge or surcharge or sur-charge or (sur adj charge)))) same (inn or motel or hotel)) and ((telephone or phone) with us\$4)	USPAT	2002/05/23 15:25
-	692	(motel or hotel) same (fee or charg\$3 or bill\$3 or \$4charge or (sur adj charge))	USPAT	2002/05/24 13:11
-	96	((motel or hotel) same (fee or charg\$3 or bill\$3 or \$4charge or (sur adj charge))) same (us\$3 with (telephone or phone or fax or facsimile))	USPAT	2002/05/24 12:41
-	48	(activation with (fee or charg\$3)) same ( (telephone or phone or fax or facsimile))	USPAT	2002/05/24 12:42
-	692	(motel or hotel) same (fee or charg\$3 or bill\$3 or \$4charge or (sur adj charge) or subcharg\$3)	USPAT	2002/05/24 13:13
-	222	((motel or hotel) same (fee or charg\$3 or bill\$3 or \$4charge or (sur adj charge) or subcharg\$3)) same (telephone or phone or fax or facsimile)	USPAT	2002/05/24 13:14

DOCUMENT-IDENTIFIER: US 5745884 A

TITLE: System and method for billing data grade network use on a per connection basis

----- KWIC -----

BSPR:

For instance, in a hotel room, the physical location of the modem-equipped computer is associated with the hotel room number. The remote user may thus be

identified by originating modem. Alternatively, authority for remote access from, for example, an airport lounge will require some type of transient caller identification, such as a credit card. The remote user may thus be identified by caller identity. Billing for the connection is then handled by conventional phone company billing. These billing methods accrue the charge to the phone location or to the credit card. Additional surcharges (such as airport access, hotel, etc.) may be added.

DOCUMENT-IDENTIFIER: US 4947422 A

TITLE: Personalized telephone for automatic access to operator services

----- KWIC -----

**BSPR:**

In order to further facilitate the ease with which long distance telephone calls are made, and to promote the generation of revenues therefrom, a need exists for a technique to automatically identify the telephone set itself, and thus the proprietor thereof so that the operator service organization can appropriate the billing charges so that the owner of the telephone set can recover all costs, as well as receive a profit from the use of the telephone set. This would be especially advantageous in hotels, hospitals, dormitories and other similar institutions where the users of the telephone are fairly well identifiable. By assigning specially programmed telephones to the patrons of such institutions, and on the automatic transmission of such information to the operator services, such services can allocate the billing charges efficiently and accurately, without loss of revenue to the institution.

**DEPR:**

Also as noted above, a hotel number register is provided and the content thereof automatically outputted to the operator services 22 when toll-type telephone calls are placed from a hotel room telephone set of the invention. When a telephone set 10 of the invention is uniquely associated with, for example, a hotel room, the hotel number register 356 would be programmed with the number of the room. This is advantageous, as some hotels will desire to utilize the alternate operator services 22 to bill calls to the hotel, and then report such telephone usage back to the hotel on a room-by-room basis. The hotel can then bill the guest for long-distance usage at checkout time. The hotel number register 356 is programmed by the following digit sequence "\*4(hotel room number)". The digit "4" in the dialling sequence signifies to the microprocessor 46 that the hotel number is to be inserted into the storage

DOCUMENT-IDENTIFIER: US 6330315 B1

TITLE: Apparatus and method for routing blocked calls

----- KWIC -----

BSPR:

For example, 1-800 and 1-888 service providers (collectively called 1-8YY service providers) have recently realized that calls to their toll-free telephone lines from pay telephones present additional charges that they do not

wish to incur. When a caller uses a pay telephone to call the toll-free number, the caller is not required to absorb any of the cost for the call.

However, the owner of the pay telephone automatically bills the 1-8YY service

provider for the toll-free call. Typically, the 1-8YY service provider will be charged a surcharge of between 10 and 35 cents per call by the owner of the pay

telephone. For example, if a caller uses a pay telephone to check his/her messaging service, it may only take one minute to complete the call. This will

result in minimal telecommunication charges of approximately 10 cents.

However, the total cost for the call will jump to between 20 and 45 cents when

the pay telephone surcharges are applied. This cost must be absorbed by the messaging service provider.

DEPR:

The call may be blocked due to requests from the owner of the receiving user device 15. For example, a 1-8YY service provider may block all calls to their

user device 15 that originate from pay telephones in order to avoid the additional surcharge that is charged by the owner of the pay telephone.

DEPR:

The present invention according to the above embodiment allows a called party

to control the types of calls that are received and billed to their account while still allowing callers the ability to access them if the callers agree to pay for the access. For example, 1-8YY service providers may block all calls from pay telephones yet allow callers from pay telephones to access their services when the caller agrees to pay the additional surcharges for access. In this way, service providers may minimize costs while still allowing customers the access they desire.

DOCUMENT-IDENTIFIER: US 4706275 A

TITLE: Telephone system

----- KWIC -----

BSPR:

Further, toll or long distance telephone calls are used more and more as people travel more and conduct business on a less localized basis. Presently long distance calls can be made by charging the call to a local telephone such as for example to a telephone in a hotel room. The long distance call can be made by instant payment such as for example when using a public payphone. The long distance call can be made by charging the call to the calling party's home or business telephone or by using a telephone company credit card number. The long distance call can also be made as a "collect call" where the called party has to accept the call and is then billed the time and charges for the call.

DEPR:

The customer, such as a regular telephone user or a traveller acquires a special code, a credit amount and the telephone number of the special central offices by either a cash or credit card payment. The code, the credit amount and telephone numbers may be acquired, for example through the regular credit card companies and charged to the acquirer's credit card. Alternatively, the credit amount, the telephone numbers and identifying code can be purchased at sales points such as in airports, hotels, rent-a-car stations and the like. The amount paid is credited to the acquirer for use against future telephone calls. The credited amount is stored in a memory at the special central office along with the special code. The acquisition of the code and telephone number

DOCUMENT-IDENTIFIER: US 5914471 A

TITLE: Method and apparatus for recording usage data of card operated devices

----- KWIC -----

DWKU:

5914471

BSPR:

Such settling of charges may be carried out for various reasons. First, such charges may need to be shared with a commercial operator of a locality in which

the pay phone in question is located, i.e., the commercial operator being paid part of the call charges. For example, it is standard practice in hotels and restaurants to impose a surcharge, which is ultimately paid to those establishments, for a caller's use of a pay phone situated there. Second, a settling of charges may be necessary with another telephone company if the caller makes use of a card of a telephone company different from that to which

the pay phone in question is connected. The main instance that comes to mind

here is the use of foreign cards, where it is necessary to settle the call charges with a foreign telephone company that carried a call made through the

pay phone. Third, charges may need to be settled with a commercial operator of

the pay phone itself--where that operator is not the telephone company to which

that pay phone is connected but rather a different telephone company.